Message

From: Arnold, Rick [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP

(FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A545BF3329054C1B8F0F65D0F45797DE-ARNOLD, LAR]

Sent: 8/11/2020 6:43:11 PM

To: Ranalli, Anthony [Ranalli.Anthony@epa.gov]

Subject: Some references

Attachments: Muhr-Ebertetal 2019_U speciation database.pdf; Mahoneyetal 2009_Data for U adsoption onto HFO.pdf;

Johnson2011_Proposed DB Modeling.pdf; Johnson2012_OF12-1070_GWQW.pdf; Johnson2012_GWQW_table2_QW

results_Ira.xls; Johnsonetal2013_OF13-1093_cores.pdf; Johnsonetal2013_Table1_solids data.xls;

Johnsonetal 2013_Table 2_XRD data.xlsx

Hi Tony,

Attached are a modeling presentation that Ray gave and 2 of his reports (with associated tables) that have GW and core data from the Dewey Burdock site.

Also attached are two papers that provide updates to the thermodynamic database for U transport and adsorption. Because Muhr-Ebert et al. (2019) includes Guillaumont et al. (2003) and Dong and Brooks (2006) among others, it seems like we can just reference Muhr-Ebert in the permit, rather than all three. We still would want to include Mahoney et al. (2009) because it contains other data. See what you think. Thanks.

Rick Arnold Physical Scientist USEPA Region 8 Underground Injection Control Program (303) 312-6788